NSIS 2025-2026 LECTURE SERIES NSIS1862.CA

Oct 6 - St. Francis Xavier University

The Surprising Social Lives of Insects

Dr. Jennifer Perry
St. Francis Xavier University

Many insects live lives of surprising complexity. Dr. Perry will discuss case studies of how insects fine-tune their behaviour in response to the social and environmental context, and how studying insect behaviour can help us understand key evolutionary processes.

Nov 3 – Cape Breton University

Maskwio'mi: The Story and Study of a Mi'kmaq Skin Medicine made from Birch Bark

Dr. Matthias Bierenstiel
Cape Breton University

Are there any natural products in our own backyard? Dr. Matthias Bierenstiel will present the story of maskwio'mi (maskwi = birch bark, o'mi = gathering/oil) and how a chemist ventured into the world of Mi'kmaq myths, topical skincare and a campfire, eptuaptmumk (Two-Eyed Seeing), and the entrepreneurial start of Maskwiomin as ethical commercialization.

All lectures will be hybrid events held at St. Mary's University (Stephanie MacDonald Lecture Theatre, SMU Atrium 101) and on line via Zoom links that will be posted one week before each seminar on the NSIS Public Lectures webpage.

Online Only! @6:30pm

Dec 1 – Saint Mary's University

Combinatorial games: Would you like some math with your game?

Dr. Svenja Huntemann
Mount Saint Vincent University

You are playing a game of pure strategy, such as chess, checkers, or go, with a friend. Where should you make your next move? Dr. Huntemann will teach you some of the tools mathematicians and computer scientists use to find the optimal move in such games through the example of two games with much simpler rules that are still surprisingly difficult.

Jan 5 – Virtual Presentation

Matter from Air: Replacing Carbon with Nitrogen for Sustainable Materials

Dr. Saurabh Chitnis
Dalhousie University

Society's dependence upon petrochemical plastics is fundamentally at odds with the goal of eliminating fossil fuels in a NetZero future. Dr. Chitnis will describe the vision of using nitrogen as an alternative elemental basis for materials. Such materials would also have the advantage of being "circular" by being turned into fertilizer at the end of their lives. This talk explores carbon-negative and degradable materials instead of fossil-fuel based, carbon-positive, and persistent ones.

1ST MONDAY OF EVERY MONTH 7:30 PM @NSInstituteofScience @NSIS_Sci_NS

Feb 2 – St. Francis Xavier University

Ticked off by the cold: How ticks and other critters deal with winter

Dr. Jantina Toxopeus
St. Francis Xavier University

Why are ticks so abundant these days? What does it mean for our risk of getting Lyme disease? Dr. Toxopeus will talk about how ticks and pest insects are affected by warmer fall and winter conditions, and what it may mean for us.

Mar 2 – Dalhousie University

How humans unintentionally affect wildlife evolution

Dr. Chloé Schmidt
Dalhousie University

Humans affect the evolution of other organisms in a variety of ways. For instance, selective breeding can cause trees to produce larger fruit, or insecticide use can put pressure on insects to evolve resistance. But large-scale environmental transformations, such as urbanization, can also have indirect evolutionary consequences. Dr. Schmidt will explore the ways humans can shape the evolutionary futures of other species, and implications for conserving the adaptive potential of wildlife populations.

Apr 6 – Dalhousie University

Nanotechnology-driven Approaches for Rapid Medical Diagnostics and Treatment

Dr. Malama Chisanga
Dalhousie University

Infectious diseases affect all communities, yet we have not figured out how to diagnose and treat them promptly. It takes ca. >48 h to identify a pathogenic disease, leaving physicians unsure what treatment suits patients. Can diseases be detected and treated faster? Dr. Chisanga will answer this question and highlight new analytical tools for the early detection and treatment of microbial infections.

May 4 – Saint Mary's University

Random Fibonacci Sequences and Viswanath's Constant

Dr. Karyn McLellan
Mount Saint Vincent University

You may have heard of the Fibonacci sequence and its growth rate, the golden ratio, but have you heard of a random Fibonacci sequence? In this talk Dr. McLellan will discuss the Fibonacci sequence, what happens when the element of randomness in introduced, and the subsequent search for Viswanath's constant – an elusive number analogous to the golden ratio which tells us how fast a random Fibonacci sequence grows.

We thank our partners who have joined us in our journey and mission to promote research and education in science:

St. Francis Xavier University • Dalhousie University • Cape Breton University
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